

- (2) Any staging event, or
- (3) Any envelope expansion.

(b) A permittee must conduct each reusable suborbital rocket flight so that the reentry impact point does not loiter over a populated area.

§ 437.61 Landing and impact locations.

For a nominal or any contingency abort landing of a reusable suborbital rocket, or for any nominal or contingency impact or landing of a component of that rocket, a permittee must use a location that—

- (a) Is big enough to contain an impact, including debris dispersion upon impact; and
- (b) At the time of landing or impact, does not contain any members of the public.

§ 437.63 Agreements with other entities involved in a launch or reentry.

A permittee must comply with the agreements required by this section.

(a) A permittee must have an agreement in writing with a Federal launch range operator, a licensed launch site operator, or any other party that provides access to or use of property and services required to support the safe launch or reentry under a permit.

(b) Unless otherwise addressed in agreements with a licensed launch site operator or a Federal launch range, a permittee must have an agreement in writing with the following:

(1) For overflight of navigable water, a written agreement between the applicant and the local United States Coast Guard district to establish procedures for issuing a Notice to Mariners before a permitted flight, and

(2) A written agreement between the applicant and responsible Air Traffic Control authority having jurisdiction over the airspace through which a permitted launch or reentry is to take place, for measures necessary to ensure the safety of aircraft. The agreement must, at a minimum, demonstrate satisfaction of §§ 437.69(a) and 437.71(d).

§ 437.65 Collision avoidance analysis.

(a) For a permitted flight with a planned maximum altitude greater than 150 kilometers, a permittee must obtain a collision avoidance analysis

from United States Strategic Command.

(b) The collision avoidance analysis must establish each period during which a permittee may not initiate flight to ensure that a permitted vehicle and any jettisoned components do not pass closer than 200 kilometers to a manned or mannable orbital object. A distance of less than 200 kilometers may be used if the distance provides an equivalent level of safety, and if the distance accounts for all uncertainties in the analysis.

§ 437.67 Tracking a reusable suborbital rocket.

A permittee must—

- (a) During permitted flight, measure in real time the position and velocity of its reusable suborbital rocket; and
- (b) Provide position and velocity data to the FAA for post-flight use.

§ 437.69 Communications.

(a) A permittee must be in communication with Air Traffic Control during all phases of flight.

(b) A permittee must record communications affecting the safety of the flight.

§ 437.71 Flight rules.

(a) Before initiating rocket-powered flight, a permittee must confirm that all systems and operations necessary to ensure that safety measures derived from §§ 437.55, 437.57, 437.59, 437.61, 437.63, 437.65, 437.67, and 437.69 are within acceptable limits.

(b) During all phases of flight, a permittee must—

(1) Follow flight rules that ensure compliance with §§ 437.55, 437.57, 437.59, and 437.61; and

(2) Abort the flight if it would endanger the public.

(c) A permittee may not operate a reusable suborbital rocket in a careless or reckless manner that would endanger any member of the public during any phase of flight.

(d) A permittee may not operate a reusable suborbital rocket in areas designated in a Notice to Airmen under § 91.137, § 91.138, § 91.141, or § 91.145 of this title, unless authorized by:

- (1) Air Traffic Control; or

(2) A Flight Standards Certificate of Waiver or Authorization.

(e) For any phase of flight where a permittee operates a reusable sub-orbital rocket like an aircraft in the National Airspace System, a permittee must comply with the provisions of part 91 of this title specified in an experimental permit issued under this part.

§ 437.73 Anomaly recording, reporting and implementation of corrective actions.

(a) A permittee must record each anomaly that affects a safety-critical system, subsystem, process, facility, or support equipment.

(b) A permittee must identify all root causes of each anomaly, and implement all corrective actions for each anomaly.

(c) A permittee must report to the FAA any anomaly of any system that is necessary for complying with §§ 437.55(a)(3), 437.57, and 437.59, and must report the corrective action for each reported anomaly.

(d) A permittee must implement each corrective action before the next flight.

§ 437.75 Mishap reporting, responding, and investigating.

A permittee must report, respond to, and investigate mishaps that occur during permitted activities, in accordance with this section.

(a) *Reporting requirements.* A permittee must—

(1) Immediately notify the FAA Washington Operations Center if there is a launch or reentry accident or incident or a mishap that involves a fatality or serious injury, as defined in 49 CFR 830.2;

(2) Notify within 24 hours the FAA's Office of Commercial Space Transportation if there is a mishap that does not involve a fatality or serious injury, as defined in 49 CFR 830.2; and

(3) Submit within 5 days of the event a written preliminary report to the FAA's Office of Commercial Space Transportation if there is a launch or reentry accident or incident during a permitted flight. The report must identify the event as a launch or reentry accident or incident, and must include:

- (i) The date and time of occurrence,
- (ii) A description of the event and sequence of events leading to the launch or reentry accident, or launch or reentry incident, to the extent known,
- (iii) The intended and actual location of launch or reentry, including landing or impact on Earth,
- (iv) A description of any payload,
- (v) The number and general description of any fatalities and injuries,
- (vi) Property damage, if any, and an estimate of its value,
- (vii) A description of any hazardous materials involved in the event, whether on the reusable suborbital rocket or on the ground,
- (viii) Action taken by any person to contain the consequences of the event, and
- (ix) Weather conditions at the time of the event.

(b) *Response requirements.* A permittee must—

- (1) Immediately—
 - (i) Ensure the consequences of a mishap are contained and minimized; and
 - (ii) Ensure data and physical evidence are preserved.

(2) Report to and cooperate with FAA and National Transportation Safety Board (NTSB) investigations and designate one or more points of contact for the FAA or NTSB; and

(3) Identify and adopt preventive measures for avoiding a recurrence of the event.

(c) *Investigation requirements.* A permittee must—

(1) Investigate the root cause of an event described in paragraph (a) of this section;

(2) Report investigation results to the FAA upon completion; and

(3) Identify responsibilities, including reporting responsibilities, for personnel assigned to conduct investigations and for any unrelated persons that the permittee retains to conduct or participate in investigations.

§ 437.77 Additional safety requirements.

The FAA may impose additional safety requirements on an applicant or permittee proposing an activity with a hazard not otherwise addressed in this part. This may include a toxic hazard or the use of solid propellants. The